

EE488B SPRING 2004 SYLLABUS

Text: **Power Electronics, Rashid (3rd Edition)**

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EE488B Solid-State Power Electronics				
Week	Lesson	Topic	Read	Homework
Week of 05 Jan		[Thursday, 8 Jan is the first day of class]		
1	1.	Introduction	1 - 30	
	LAB	PSpice Introduction		
Week of 12 Jan				
2	2.	Diodes and Circuits	31 - 62	Ch 2 # 1, 5, 8
	3.	Diodes and Circuits	31 - 62	Ch 2 # 12 (a & d), 13
	4.	Diode Rectifiers	68 - 119	Ch 3 # 7, 11
	LAB	Diode Rectifier and Filter		
Week of 19 Jan		19 January 2004 - Martin Luther King Holiday		
3	5.	Diode Rectifiers	68 - 119	Ch 3 # 5, 14
	6.	Diode Rectifiers	68 - 119	Ch 3 # 19
	LAB	Controlled Rectifier		
Week of 26 Jan				
4	7.	Controlled Rectifiers	431 - 440	Ch 10 # 2
	8.	Controlled Rectifiers	456 - 467 487 - 495	Ch 10 # 27, 29
	9.	Power Transistors	122 - 162	Ch 4 # 3, 7
	LAB	Device Switching I		

Week of 02 Feb				
5	10.	Power Transistors	122 - 162	Ch 4 # 9, 11
	11.	Gate Drive Circuits	761 - 769 777 - 788	Ch 17 # 1, 2
	12.	Protection of Devices and Circuits	791 - 809	Ch 18 # 1, 7, 16
	LAB	Device Switching II		
Week of 09 Feb		Exam #1		
6	13.	Protection of Devices and Circuits	810 - 830	Ch 18 # 12, 14
	14.	Dc-Dc Converters - Topologies	166 - 185	Ch 5 # 1, 4, 8
	15.	Dc-Dc Converters - Topologies	186 -194	Ch 5 # 9, 10
	LAB	Buck Converter Design and Simulation		
Week of 16 Feb		16 February 2004 - President's Holiday		
7	16.	Dc-Dc Converters - Topologies	194 - 206	Ch 5 # 12, 14
	17.	Dc-Dc Converters - Magnetic Design		
	LAB	Mid-Term Exam		
Week of 23 Feb				
8	18.	Dc-Dc Converters - Average Value Modeling		
	19.	Dc-Dc Converters - Modeling and Control		
	20.	Dc-Dc Converters - Modeling and Control		
	LAB	Buck Converter Fabrication		
Week of 01 Mar				
9	21.	Power Supplies		
	22.	Power Supplies		
	23.	Power Supplies		

	LAB	Buck Converter Control and Operation		
Week of 08 Mar				
10	24.	PWM Inverters		
	25.	PWM Inverters		
	26.	PWM Inverters		
	LAB	Single Phase Full Bridge Inverter Simulation		
13-21 MARCH 2004 - SPRING BREAK				
Week of 22 Mar				
11	27.	PWM Inverters		
	28.	PWM Inverters		
	29.	Other Inverters		
	LAB	Inverter Demonstration		
Week of 29 Mar		Exam #2		
12	30.	Dc Drives		
	31.	Dc Drives		
	32.	Dc Drives		
	LAB	Dc Drive Simulation		
Week of 05 Apr				
13	33.	Dc Drives		
	34.	Dc Drives		
	35.	Dc Drives		
	LAB	Dc Drive Project		
Week of 12 Apr				

14	36.	Dc Drives		
	37.	Dc Drives		
	38.	Dc Drives		
	LAB	Dc Drive Project		
Week of 19 Apr				
15	39.	Ac Drives		
	40.	Ac Drives		
	41.	Ac Drives		
	LAB	Dc Drive Project		
Week of 26 Apr		29 April 2004 – last day of class and a MONDAY schedule of classes!		
16	42.	Ac Drives		
	43.	Ac Drives		
	44.	Ac Drives		
	LAB	Dc Drive Project		